

OJCS-863-74
27 JUN 1974

STATINTL

MEMORANDUM FOR: [] OC

SUBJECT : Computer Selection for STRES Program

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- I. Based on a file with [] stations, 15 numerical values per station per month for a six month period we can calculate the amount of storage needed.

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[] numerical values

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Add to this [] text labels and we still have less than 20,000 values. Given that, there are four bytes per word and a maximum of 7,294 bytes per track on a 2314 disk, we can compute the number of tracks needed.

$$\begin{aligned} 20,000 \times 4 &= 80,000 \text{ Bytes} \\ 80,000 / 7,294 &= 11 \text{ Tracks} \end{aligned}$$

This represents one half of a cylinder. Given further, that phase two will require additional information and that various tables and programs need be stored up to 10 cylinders will be needed for this project.

- II. GIMS is a highly sophisticated information retrieval language developed to facilitate record reformatting for report generation and rigid information retrieval from large indexed, randomly ordered data bases. It does not lend itself to mathematical computation although it does permit such requests.
- III. CP/CMS is the time sharing system on our 360/67 that basically allows BATCH type programs and INTERACTIVE programs to be run concurrently. The advantages of this machine over the ASP system are: The interactive mode rapidly generates answers, right in the OC physical

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area, allowing erroneous requests to be immediately corrected and resubmitted; new questions suggested by answers to other questions can be asked immediately; the time delay between question and answer is usually under 1 minute.

The disadvantages must be considered also. The speed of the machine internally is the same as one of our 360/65's yet the cost is \$2,000/hr versus \$600/hr for a 65. Storage is at a premium on this system to be replaced by a 370/158 this September and the on-line storage should increase at that time. The other disadvantage is that being a one machine system when the 67 is down the data base is not available.

- IV. ASP is our BATCH processing system consisting of one 360/195, two 360/65's with literally unlimited on and off line storage. A file maintained on an off-line storage medium such as tape or disk must be brought on line before the program can be run. The time it takes to do this varies from 5 minutes to 5 hours depending on the device requested and the number of competitive requests currently pending.

On-line storage is limited but not to the degree it should effect us - however, it does cost more to maintain data on-line. Turnaround time for a fast program using only on-line data is on the order of 5 minutes on the computer and up to 30 minutes to get the output back to the requestor. The cost of this system is the lowest OJCS offers: \$600/CPU hr on a 65 and about \$400/65 equivalent CPU hr on a 195.

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It would appear a phase 1 program should be written to run on the 67 for interactive use with a BATCH version maintained for ASP use as a backup. A copy of the data file could be on-line on the 67 and another copy off-line on ASP. A second program would be written to sort and list the file every 6 months, or as needed, outputting microfiche.

The next step is for OJCS programmers to meet with the O/C programmers to determine a method and format for transferring data from their COM center to our COMPUTER center.

[Redacted Signature]

Team Leader

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